

REMARKS

Applicants have herein amended claims 17, 125 and 128 of the subject application. Claims 17, 19, 98-103, 125-126 and 128 are pending in the subject application.

Claims 17, 19, 98-101, 103, 125-126 and 128

The Office rejected claims 17, 19, 98-101, 103, 125-126 and 128 under 35 U.S.C. §103(a) as being unpatentable over Moravvej-Farshi et al. M. K. Moravvej-Farshi and M. A. Green, *Novel Self-Aligned Polysilicon-Gate MOSFETs with Polysilicon Source and Drain*, 30 SOLID-STATE ELECTRONICS 1053 (1987) (“Moravvej”) in view of U.S. Patent No. 5,319,232 (“Pfiester”).

A *prima facie* case of obviousness under 35 U.S.C. §103(a) requires, among other things, that the cited references, when combined, teach or suggest every element of the claim. *See* MPEP §2142. Applicants submit that the Office has not established a *prima facie* case of obviousness because not all elements of amended claims 17, 125 and 128 are taught or suggested by the cited references.

Moravvej is directed to a masking oxide sequence that self-aligns the gate between the source and the drain. *See* Moravvej, *supra*, at 1053, 1058. Moravvej states that “[e]tching of the second polysilicon layer in regions not protected by the oxide until the oxide of the first polysilicon layer is exposed will leave the top layer of polysilicon perfectly aligned to the original source and drain regions of the transistor...” Moravvej, *supra*, at 1054. In addition, Moravvej utilizes silicon dioxide both to achieve this self-aligning process and to insulate the gate from the drain and source. *See* Moravvej, *supra*, at 1054. However, as noted in the Office Action (pp.2-3), Moravvej does not teach a first implant junction including a first pocket implant

junction and a second implant junction including a second pocket implant junction as claimed in claims 17, 125 and 128.

Pfiester is directed to a structure including a gate consisting of multiple spacers that are located on each sidewall of the gate. *See* Pfiester, col. 2, line 50 - col. 4, line 13. In Pfiester, the spacers contribute to the performance of the design in that multiple spacers function to space out a dopant uniformly, so that the dopant does not form substantially diffused under the gate channel and thus cause an electrical short to occur between the gate and drain and the gate and source. *See* Pfiester, column. 3, line 3 - column. 4, line 13. (*emphasis added*). However, Applicants respectfully submit that nowhere does Pfiester teach or suggest a first and second pocket implant junction area that is counterdoped by a substrate dopant as claimed in claims 17, 125 and 128.

Conversely, the Pfiester invention involves a spacing scheme that causes junction regions to be uniformly doped in an effort to mitigate counterdoping effects that the substrate dopant may have on a junction region. For example, column 3, line 67 - column 4, line 6 of Pfiester states that “[t]he spacer 30 overlies the faceting portions of the epitaxial regions 24 that are non-uniform and sloped due to faceting that occurs along the spacer 22. The epitaxial regions 24 are doped, usually via ion implantation. The ion implantation of the epitaxial regions is very uniform due to the fact that the spacer 30 covers the faceting regions of the epitaxial regions 24.” Pfiester goes on to describe, in column 4, lines 26-28, that “[d]ue to the fact that the ion implant, which doped the epitaxial region, was uniform, the source and drain regions 32 are very uniform.” (*emphasis added*). The Pfiester invention further describes doping the LDD regions 28 to improve doping uniformity. *See* Pfiester, column 5, lines 20-34.

The present application generally discusses implanting an excess dopant that shares the same polarity type of the raised gate, source and drain. According to the application, the excess dopant is implanted into a pocket implant junction within a substrate of opposite polarity, thus

causing the implanted atoms in the pocket implant junction to be counterdoped by the oppositely-charged substrate dopant. *See* Application, pg. 6; ll. 23 – pg. 7; ll. 5.

Therefore, Applicants submit that claims 17, 125 and 128 are not obvious over Moravvej and Pfiester because the cited references do not disclose, teach or suggest each and every element of the claims such as:

a first implant junction area located in said substrate assembly extending partially beneath said gate and said source, wherein said first junction area includes a first pocket implant junction and a first outdiffusion area, wherein said first pocket implant junction is counterdoped by a substrate dopant; and

a second implant junction area located in said substrate assembly extending partially beneath said gate and said drain, wherein said second junction area includes a second pocket implant junction and a second outdiffusion area, wherein said second pocket implant junction is counterdoped by said substrate dopant. (emphasis added).

Thus, claims 19 and 98-103, which depend from claim 17, and claim 126, which depends from claim 125 are not anticipated by Moravvej and Pfiester for the same reasons stated hereinabove. Accordingly, Applicants respectfully request that the §103(a) rejections associated with claims 17, 19, 98-101, 103, 125-126 and 128 be withdrawn.

Claim 102

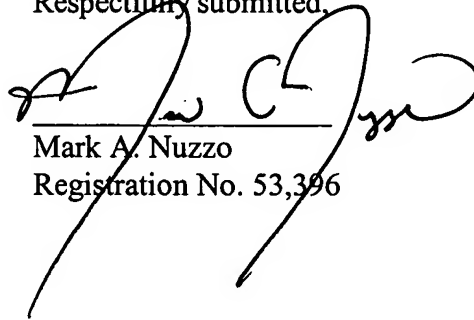
The Office also rejected claim 102 under 35 U.S.C. §103(a) as being unpatentable over Moravvej in view of Pfister and in view of U.S. Patent No. 6,130,482 ("Lio"). Applicants traverse the rejection as follows.

Claim 102 depends from independent claim 17. For reasons stated hereinabove, Applicants submit that claim 17 is not obvious over Moravvej and Pfister. In addition, MPEP §2143.03 states that if an independent claim is not obvious under 35 U.S.C. §103(a), then any claim depending therefrom is not obvious over the cited references. *See* MPEP §2143.03. Therefore, Applicants submit that claim 102, which depends from claim 17, is not obvious in view of Moravvej, Pfister and Lio for reasons stated hereinabove. Accordingly, Applicants respectfully request that the §103(a) rejections associated with claim 102 be withdrawn.

CONCLUSION

Applicants respectfully request issuance of a Notice of Allowance for the subject application. If the Examiner is of the opinion that the subject application is in condition for disposition other than allowance, the Examiner is respectfully requested to contact the undersigned representative at the telephone number listed below, in order that the Examiner's concerns may be expeditiously addressed.

Respectfully submitted,



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